AF/1714

Attorney Docket: 132/42381C2
PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: LAWRENCE R. GRZYLL ET AL.

Serial No.: 09/500,919 Group Art Unit: 1714

Filed: FEBRUARY 9, 2000 Examiner: J. ANTHONY

Title: FIRE EXTINGUISHING METHODS AND BLENDS UTILIZING UNSATURATED PERFLUOROCARBONS

H15
8/3/01

APPEAL BRIEF AND REQUEST FOR CONSOLIDATION OF PENDING APPEAL

Commissioner for Patents
Washington, D.C. 20231

Sir:

Applicants respectfully request that the present appeal be consolidated with the appeal pending in related application U.S. Serial No. 08/895,687 in order to obviate duplicative consideration by the Board and expense to Applicants.

I. INTRODUCTION

This Appeal is from a final Office Action mailed March 5, 2001, rejecting Claims 27-32. No claims are allowed.

A. REAL PARTY IN INTEREST

The real party in interest for this Appeal is Mainstream Engineering Corporation.

B. RELATED APPEALS AND INTERFERENCES

As noted above, Applicants request that this appeal be consolidated with the appeal pending in related application U.S. Serial No. 08/895,687. A copy of the Appeal Brief filed in U.S. Serial No. 08/895,687 is attached.

C. STATUS OF CLAIMS

Claims 27-32 are pending and stand rejected. These claims are set forth in the attached Appendix.

D. STATUS OF AMENDMENTS

An Amendment was filed on November 20, 2000 in which Claims 27 and 32 were amended.

If needed, Applicants offer to file a Terminal Disclaimer to overcome the provisional rejection of Claims 27-32 under the doctrine of obviousness-type double patenting upon resolution of the pending appeals.

II. SUMMARY OF THE INVENTION

Halogenated chemical agents containing combinations of fluorine, chlorine, bromine, iodine, and hydrogen are well known. Such chemical agents include Halon 1301 (CF_3Br), Halon 1211 (CF_2ClBr), and Halon 2402 (CF_2BrCF_2Br) (specification at page 1, lines 4-12). However, these fire extinguishing agents are believed to be capable of destroying the ozone layer (specification at page 2, lines 1-2). These agents are also thought to contribute to global warming because their atmospheric lifetime is sufficiently long that they persist in the atmosphere and absorb solar radiation.

The present invention is directed to fire extinguishing methods using a fire extinguishing agent that surprisingly has similar volatility, residue levels, material compatibility and safety characteristics as Halons. More importantly, the fire extinguishing methods of the present invention are environmentally acceptable (specification at page 2, lines 21-26).

The claimed fire extinguishing methods use a mixture of an unsaturated perfluorocarbon and at least one additional as

a fire extinguishing composition. Because the unsaturated perfluorocarbons contain no chlorine or bromine, they have zero ozone depletion potential (specification at page 3, lines 5-10).

III. THE APPLIED REFERENCES

The applied references are the same as in related application U.S. Serial No. 08/895,687. The applied references are:

1. Japanese Patent Application 5-42230 ("JP '230");
2. Pitts et al., "Construction of an Exploratory List of Chemicals to Initiate the Search for Halon Alternatives" ("Pitts");
3. U.S. Patent No. 5,117,917 ("Robin"); and
4. optionally the Preliminary Amendment and 1.132 Declaration filed on February 10, 1998.

A copy of the English translation of JP '230 and copies of the 1.132 Declarations are attached, as requested by the Examiner.

IV. ISSUE ON APPEAL

The issue on appeal is whether a method for extinguishing a fire using a mixture of an unsaturated perfluorocarbon and at least one additional fire extinguishing agent is rendered obvious by a combination of references that provide no teaching, suggestion, or motivation to use such a mixture as a fire extinguishing composition.

V. GROUPING OF CLAIMS

Each claim of this patent application is separately patentable, and upon issuance of a patent will be entitled to a separate presumption of validity under 35 U.S.C. §282. In

addition to Groups I-III in the appeal in Serial No. 08/895,687, the pending claims are group as follows:

Claims 27-29 and 31-32 (Group IV); and

Claim 30 (Group V).

Groups IV-V will be argued separately in the following arguments by representative claims within each group. The groups do not stand or fall together.

VI. ARGUMENT

The argument in U.S. Serial No. 08/895,687 is incorporated by reference herein.

The cited references do not teach or suggest a method of extinguishing a fire comprising introducing a fire extinguishing composition comprising a mixture of (1) an unsaturated perfluorocarbon having the formula C_xF_y, wherein x is 3 or 4 and y is 6 or 8, and (2) at least one additional fire extinguishing agent to the fire, as recited in Claim 27 (Group IV).

In addition, the cited references do not teach or suggest that the fire extinguishing composition may be a mixture of octafluoro-2-butene and at least one additional fire extinguishing agent, as recited in Claim 30 (Group V). Thus, it would not have been obvious fro one of ordinary skill in the art to practice the claimed methods n view of the combined teachings of the cited references.

VII. CONCLUSION

For all of the above reasons, Appellants respectfully request this Honorable Board to reverse the rejection of Claims 27-32.

The Commissioner is hereby authorized to charge $155.00 and any deficiency, or credit any overpayment, to Deposit

Account No. 05-1323 (Docket #132/42381C2). A triplicate copy of this Appeal Brief is attached).

Respectfully submitted,

July 31, 2001

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APPENDIX

27. A method of extinguishing a fire, comprising:

introducing a fire extinguishing composition comprising a mixture of an unsaturated perfluorocarbon and at least one additional fire extinguishing agent to the fire; and

maintaining a concentration of the fire extinguishing composition sufficient to extinguish the fire,

wherein said unsaturated perfluorocarbon has the formula C_xF_y, wherein x is 3 or 4 and y is 6 or 8.

28. A method according to claim 27, wherein said unsaturated perfluorocarbon is selected from the group consisting of hexafluoropropene, octafluoro-1-butene, and octafluoro-2-butene.

29. A method according to claim 27, wherein said additional fire extinguishing agent is selected from the group consisting of CF_3CFHCF_3, CF_3CF_2H, $CF_3CHFCHF_2$ and $CF_3CH_2CF_3$.

30. A method of extinguishing a fire, comprising

introducing a fire extinguishing composition comprising a mixture of octafluoro-2-butene and at least one additional fire extinguishing agent to the fire; and

maintaining a concentration of the fire extinguishing composition sufficient to extinguish the fire.

31. A method according to claim 27, wherein said additional fire extinguishing agent is a gas.

32. A method according to claim 27, wherein the step of introducing comprises streaming.